

CLAIMS

1. A communication system having a downlink data channel for the transmission of data packets from a primary station to a secondary station, a first uplink control channel for the transmission of information relating to reception of data packets from the secondary station to the primary station, and a second uplink control channel for the transmission of pilot information, the secondary station having receiving means for receiving a data packet and acknowledgement means for transmitting a status signal on the first control channel to the primary station to indicate the status of a received data packet, wherein the secondary station comprises power control means for temporarily increasing the transmission power of at least the part of the second control channel including pilot information for a predetermined period during which the status signal is transmitted.

2. A primary station for use in a communication system having a downlink data channel for the transmission of data packets from the primary station to a secondary station, a first uplink control channel for the transmission of information relating to reception of data packets from the secondary station to the primary station, and a second uplink control channel for the transmission of pilot information, wherein means are provided for receiving a status signal on the first control channel indicating the status of a data packet transmitted to the secondary station, closed loop power control means are provided for controlling the power of the uplink control channel, and means are provided for adjusting the operation of the power control means for a predetermined period around a time when transmission of a status signal by the secondary station is expected to take into account a temporary increase of the transmission power of at least the part of the second control channel including pilot information.

3. A primary station as claimed in claim 2, characterised in that means are provided for signalling to the secondary station the magnitude of the power increase which should be applied.

5 4. A primary station as claimed in claim 3, characterised in that means are provided for signalling a change in another parameter at the same time as a power offset is signalled.

10 5. A primary station as claimed in claim 4, characterised in that the other parameter is the number of repetitions of a status signal.

15 6. A secondary station for use in a communication system having a downlink data channel for the transmission of data packets from a primary station to a secondary station, a first uplink control channel for the transmission of information relating to reception of data packets from the secondary station to the primary station, and a second uplink control channel for the transmission of pilot information, wherein receiving means are provided for receiving a data packet from the primary station and acknowledgement means are provided for transmitting a status signal on the first control channel to the primary station to indicate the status of a received data packet, wherein power control means are provided for temporarily increasing the transmission power of at least the part of the second control channel including pilot information for a predetermined period during which the status signal is transmitted.

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7. A secondary station as claimed in claim 6, characterised in that the amount by which the transmission power is increased at the start of the predetermined period is different from the amount by which the power is decreased at the end of the predetermined period.

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8. A secondary station as claimed in claim 6 or 7, characterised in that means are provided for increasing the transmission power by different

amounts depending on whether the status signal is an acknowledgement or a negative acknowledgement.

9. A secondary station as claimed in any one of claims 6 to 8,
5 characterised in that means are provided for increasing the transmission power by a first amount at the start of the predetermined period and by a second amount when the type of status signal to be transmitted has been determined, the second amount depending on whether the status signal is an acknowledgement or a negative acknowledgement.

10. A secondary station as claimed in any one of claims 6 to 9,
characterised in that the system further comprises an uplink data channel, in that a gain factor is defined as the ratio between the transmission power of the second uplink control channel and the transmission power of the uplink data
15 channel, and in that means are provided for adjusting the gain factor for the duration of the transmission power increase, thereby maintaining the transmission power of the uplink data channel at a similar level to that before the power increase.

20 11. A secondary station as claimed in any one of claims 6 to 10, characterised in that means are provided for resetting a timer on detection of an indication that a data packet has been transmitted to the secondary station and in that the predetermined period lasts until the timer expires.

25 12. A secondary station as claimed in any one of claims 6 to 11, characterised in that means are provided for communicating substantially simultaneously with a plurality of primary stations, for receiving power control commands from each of the primary stations and for receiving a data packet from any one of the primary stations, characterised in that means are provided
30 for setting the power of uplink transmissions depending on power control commands received from the primary station which transmitted the packet for the duration of the predetermined period.

13. A method of operating a communication system having a downlink data channel for the transmission of data packets from a primary station to a secondary station, a first uplink control channel for the transmission of information relating to reception of data packets from the secondary station to the primary station, and a second uplink control channel for the transmission of pilot information, the method comprising the secondary station receiving a data packet and transmitting a status signal on the first control channel to the primary station to indicate the status of a received data packet, wherein the secondary station temporarily increases the transmission power of at least the part of the second control channel including pilot information for a predetermined period during which the status signal is transmitted.